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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/682,997	07/18/1996	MOTOHIRO ISHIKAWA	B208-837	9770

26272 7590 02/14/2002

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EXAMINER

RAO, ANAND SHASHIKANT

ART UNIT PAPER NUMBER

2613

DATE MAILED: 02/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

200

Office Action Summary

Application No.

08/682,997

Applicant(s)

ISHIKAWA ET AL.

Examiner

Andy S. Rao

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 2613

DETAILED ACTION

Continued Prosecution Application

1. The request filed on 1/24/02 as Paper 28 for a RCE has been acknowledged and an action follows.

Response to Amendment

2. Applicant's arguments with respect to claims 1-28 filed in Paper 29 have been considered but are moot in view of the new ground(s) of rejection of Takizawa and Lightbody as applied to the newly added limitations.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 10, 12, 20-22, and 24-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa et al., (hereinafter referred to as "Takizawa") in view of Lightbody et al., (hereinafter referred to as "Lightbody").

Takizawa discloses an image pickup system comprising: an image pickup apparatus including an image sensor for photo-electrically converting a picked up object image into an electrical signal (Takizawa: column 4, lines 10-15); image signal generating means for generating part for forming an image signal from the electrical signal (Takizawa: column 4, lines

Art Unit: 2613

15-17); an interface part for externally transferring the image signal and attribute information of the image pickup apparatus (Takizawa: column 4, lines 57-60) to an external signal processing apparatus (Takizawa: column 3, lines 60-64); an external signal processing apparatus connected to said interface means having a signal processing circuit for processing said image signal transferred through said interface (Takizawa: column 3, lines 64-65), and having a control part for controlling said image pick-up apparatus through said interface part (Takizawa: column 3, lines 51-62), wherein the control part receives said attribute information and controls the processing of the image signal such that bit numbers of the image signal are reduced (Takizawa: column 3, lines 9-12), as in claim 1. However, Takizawa fails to specifically disclose a color space converting part as a part of the image pickup system, wherein said color space converting part would also be controlled in accordance with the color space characteristic of said external processing apparatus, as in the claim. Lightbody discloses the use of a plurality of diverse color space converting means (Lightbody: column 5, lines 14-27: "variety of R,G,B, encoding output formats..."), wherein the color space converting apparatus would be controlled in accordance with the external processing apparatus (Lightbody: column 4, lines 15-25; column 5, lines 1-5) to reduce an amount of image signals (Lightbody: column 5, lines 20-25: "window clipping parameters") for output to a plurality of external devices (Lightbody: column 5, lines 42-53) for video editing applications (Lightbody: column 6, lines 43-65). It would have been obvious for one of ordinary skill in the art to incorporate the use of the Lightbody plurality of color space converting means (Lightbody: column 5, lines 14-27), wherein the color space converting apparatus would be controlled in accordance with the external processing apparatus (Lightbody: column 4, lines 15-25; column 5, lines 1-5) for use in an image processing apparatus for output

to a plurality of external devices (Lightbody: column 5, lines 42-53) as downloadable into the Takizawa program memory from the external interface (Takizawa: column 4, lines 52-63) in order to enable to Takizawa system have the capability for video editing applications (Lightbody: column 6, lines 43-65). The Takizawa system, now incorporating the Lightbody plurality of color space converting means as discussed above, has all of the features of claim 1.

Takizawa discloses an image pickup apparatus comprising: an image pickup apparatus including an image sensor for photo-electrically converting a picked up object image into an electrical signal (Takizawa: column 4, lines 10-15); image signal generating means for generating part for forming an image signal from the electrical signal (Takizawa: column 4, lines 15-17); an interface part for externally transferring the image signal and attribute information of the image pickup apparatus (Takizawa: column 4, lines 57-60) to an external signal processing apparatus (Takizawa: column 3, lines 60-64); an external signal processing apparatus connected to said interface means having a signal processing means for processing said image signal transferred through said interface (Takizawa: column 3, lines 64-65), wherein the processing of the image signal is controlled such that bit numbers of the image signal are reduced after transferring said attribute information through said interface part (Takizawa: column 3, lines 9-12), as in claim 10. However, Takizawa fails to specifically disclose a diverse color space converting part as a part of the image pickup apparatus, wherein said color space converting part would also be controlled in accordance with the color space characteristic of said external processing apparatus, as in the claim. Lightbody discloses the use of a plurality of diverse color space converting means (Lightbody: column 5, lines 14-27: "variety of R,G,B, encoding output formats..."), wherein the color space converting apparatus would controlled by the external

Art Unit: 2613

processing apparatus (Lightbody: column 4, lines 15-25; column 5, lines 1-5) to reduce an amount of image signals (Lightbody: column 5, lines 20-25: "window clipping parameters") for output to a plurality of external devices (Lightbody: column 5, lines 42-53) for video editing applications (Lightbody: column 6, lines 43-65). It would have been obvious for one of ordinary skill in the art to incorporate the use of the Lightbody plurality of diverse color space converting means (Lightbody: column 5, lines 14-27), wherein the color space converting apparatus would be controlled in accordance with the external processing apparatus (Lightbody: column 4, lines 15-25; column 5, lines 1-5) for use in an image processing apparatus for output to a plurality of external devices (Lightbody: column 5, lines 42-53) as downloadable into the Takizawa program memory from the external interface (Takizawa: column 4, lines 52-63) in order to enable the Takizawa apparatus to have the capability for video editing applications (Lightbody: column 6, lines 43-65). The Takizawa apparatus, now incorporating the Lightbody plurality of color space converting means as discussed above, has all of the features of claim 10.

Takizawa discloses an image pickup unit comprising: an image pickup part for picking up an optical image to form a picked-up image signal (Takizawa: column 4, lines 10-17); an interface part for performing communication with an external signal processing apparatus for storing attribute information of said image pickup unit (Takizawa: column 3, lines 57-64: figure 1, element 27a); compression control means for having a compression data for controlling and reducing bit numbers of picked up signals (Takizawa: column 3, lines 9-12) transferred to said external signal processing apparatus according to a control signal supplied from said external signal processing apparatus to through said interface means after transferring said attribute information through said interface means (Takizawa: column 4, lines 33-55), as in claim 20.

Art Unit: 2613

However, Takizawa fails to specifically disclose a diverse color space converting means as a part of the image pickup system, wherein said color space converting means would also be controlled in accordance with the color space characteristic of said external processing apparatus, as in the claim. Lightbody discloses the use of a plurality of color space converting means (Lightbody: column 5, lines 14-27: "variety of R,G,B, encoding output formats..."), wherein the color space converting apparatus would be controlled in accordance with the external processing apparatus (Lightbody: column 4, lines 15-25; column 5, lines 1-5) to reduce an amount of image signals (Lightbody: column 5, lines 20-25: "window clipping parameters") for output to a plurality of external devices (Lightbody: column 5, lines 42-53) for video editing applications (Lightbody: column 6, lines 43-65). It would have been obvious for one of ordinary skill in the art to incorporate the use of the Lightbody plurality of color space converting means (Lightbody: column 5, lines 14-27), wherein the color space converting apparatus would be controlled in accordance with the external processing apparatus (Lightbody: column 4, lines 15-25; column 5, lines 1-5) for use in an image processing apparatus for output to a plurality of external devices (Lightbody: column 5, lines 42-53) as downloadable into the Takizawa program memory from the external interface (Takizawa: column 4, lines 52-63) in order to enable the Takizawa apparatus to have the capability for video editing applications (Lightbody: column 6, lines 43-65). The Takizawa image pickup unit, now incorporating the Lightbody plurality of color space converting means as discussed above, has all of the features of claim 20.

Takizawa discloses a image picked-up image unit comprising: an interface part for performing communication (Takizawa: column 3, lines 60-65) with an image pickup unit including an image pickup part for picking up an optical image to form a picked-up image signal

Art Unit: 2613

(Takizawa: column 4, lines 10-20) and an attribute information of the image pickup unit (Takizawa: column 4, lines 57-60); and transmission control part for transmitting to said image pickup unit through said interface means a control signal for controlling (Takizawa: column 4, lines 50-65) and reducing bit numbers (Takizawa: column 3, lines 9-12) of each color signal picked up image transferred through said interface means after receiving said attribute information through said interface part (Takizawa: column 3, lines 60-64), as in claim 24.

However, Takizawa fails to specifically disclose a diverse color space converting means as a part of the image pickup system, wherein said color space converting means would also be controlled in accordance with the color space characteristic of said external processing apparatus, as in the claim. Lightbody discloses the use of a plurality of color space converting means (Lightbody: column 5, lines 14-27: "variety of R,G,B, encoding output formats..."), wherein the color space converting apparatus would controlled in accordance with the external processing apparatus (Lightbody: column 4, lines 15-25; column 5, lines 1-5) to reduce an amount of image signals (Lightbody: column 5, lines 20-25: "window clipping parameters") for output to a plurality of external devices (Lightbody: column 5, lines 42-53) for video editing applications (Lightbody: column 6, lines 43-65). It would have been obvious for one of ordinary skill in the art to incorporate the use of the Lightbody plurality of color space converting means (Lightbody: column 5, lines 14-27), wherein the color space converting apparatus would controlled in accordance with the external processing apparatus (Lightbody: column 4, lines 15-25; column 5, lines 1-5) for use in an image processing apparatus for output to a plurality of external devices (Lightbody: column 5, lines 42-53) as downloadable into the Takizawa program memory from the external interface (Takizawa: column 4, lines 52-63) in order to enable to Takizawa

Art Unit: 2613

apparatus have the capability for video editing applications (Lightbody: column 6, lines 43-65).

The Takizawa image pickup unit, now incorporating the Lightbody plurality of color space converting means as discussed above, has all of the features of claim 24.

Takizawa discloses an image pickup system comprising: an image pickup apparatus including an image sensor for photo-electrically converting a picked up object image into an electrical signal (Takizawa: column 4, lines 10-15); image signal generating means for generating part for forming an image signal from the electrical signal (Takizawa: column 4, lines 15-17) and for generating an attribute information of the image pick up apparatus (Takizawa: column 4, lines 57-60); and having a control part for controlling said image pick-up apparatus through said interface part (Takizawa: column 3, lines 51-62), wherein the control part controls the processing of the image signal such that bit numbers of the image signal are reduced after receiving said attribute information (Takizawa: column 3, lines 9-12), as in claim 28. However, Takizawa fails to specifically disclose a color space converting part as a part of the image pickup system, wherein said color space converting part would also be controlled in accordance with the color space characteristic of said external processing apparatus, and a display control part for controlling said image pickup apparatus and said display device, as in the claim. Lightbody discloses the use of a plurality of diverse color space converting means (Lightbody: column 5, lines 14-27: "variety of R,G,B, encoding output formats..."), wherein the color space converting apparatus would be controlled in accordance with the external processing apparatus (Lightbody: column 4, lines 15-25; column 5, lines 1-5), and a display control part for controlling said image pickup apparatus and said display device (Lightbody: column 4, lines 23-60) to reduce an amount of image signals (Lightbody: column 5, lines 20-25: "window clipping parameters") for

Art Unit: 2613

output to a plurality of external devices (Lightbody: column 5, lines 42-53) for video editing applications (Lightbody: column 6, lines 43-65). It would have been obvious for one of ordinary skill in the art to incorporate the use of the Lightbody plurality of color space converting means (Lightbody: column 5, lines 14-27), wherein the color space converting apparatus would be controlled in accordance with the external processing apparatus (Lightbody: column 4, lines 15-25; column 5, lines 1-5) for use in an image processing apparatus for output to a plurality of external devices (Lightbody: column 5, lines 42-53) as downloadable into the Takizawa program memory from the external interface (Takizawa: column 4, lines 52-63) in order to enable the Takizawa system to have the capability for video editing applications (Lightbody: column 6, lines 43-65). The Takizawa apparatus, now incorporating the Lightbody plurality of color space converting means and the display control part as discussed above, has all of the features of claim 28.

Regarding claim 12, the Takizawa apparatus, now incorporating the Lightbody plurality of color space converting means as discussed above, has the controlling means for controlling the transfer of the video image through said interface being provided external to the body of the image pickup unit (Takizawa: column 4, lines 33-62), as in the claim.

Regarding claim 21, the Takizawa image pickup unit, now incorporating the Lightbody plurality of color space converting means as discussed above, has the image pickup unit arranged to be removably attachable to said external signal processing apparatus (Takizawa: figure 1).

Regarding claim 22, the Takizawa image pickup unit, now incorporating the Lightbody plurality of color space converting means as discussed above, has the compression control means arranged to change the compression characteristics (Takizawa: column 3, lines 9-12) by

Art Unit: 2613

converting a color space of the picked up image (Lightbody: column 5, lines 30-45), as in the claim.

Regarding claim 25, the Takizawa image pickup unit, now incorporating the Lightbody plurality of color space converting means as discussed above, has the image pickup unit arranged to be removably attachable to said external signal processing apparatus (Takizawa: figure 1).

Regarding claim 26, the Takizawa image pickup unit, now incorporating the Lightbody plurality of color space converting means as discussed above, has the compression control means arranged to change the compression characteristics (Takizawa: column 3, lines 9-12) by converting a color space of the picked up image (Lightbody: column 5, lines 30-45), as in the claim.

Regarding claim 27, the Takizawa image pickup unit, now incorporating the Lightbody plurality of color space converting means as discussed above, has transmission control means (Takizawa: column 4, lines 40-60) arranged to change the compression characteristics of said image pickup means (Takizawa: column 3, lines 9-12) through said interface means according to a capability of said image display means (Lightbody: column 4, lines 30-60), as in the claim.

5. Claims 2-9, 11, 13-19 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takizawa et al., (hereinafter referred to as "Takizawa") in view of Lightbody et al., (hereinafter referred to as "Lightbody") as applied to claims 1, 10, and 20 above, and further in view of Sakoda et al., (hereinafter referred to as "Sakoda").

The Takizawa system, now incorporating the Lightbody plurality of color space converting means as discussed above, has a majority of the features of claim 2 including color space converting means for converting a plurality of kinds of color information corresponding to

Art Unit: 2613

picture elements (Lightbody: column 5, lines 13-27), as discussed above concerning parent claim 1. However, the Takizawa system, incorporating the use of the Lightbody plurality of color space converting means, fails to disclose the explicit use of look up tables as in the claim. Sakoda discloses that for color space conversion it is advantageous and well-known to use the plural look up tables (Sakoda: column 10, lines 53-68; column 11, lines 1-35) for efficient image processing of multi-format bits (Sakoda: column 2, lines 16-36). Accordingly, given the advantageous teaching of Sakoda, it would have been obvious for one of ordinary skill in the art to incorporate the use of the Sakoda's plurality of LUTs (look up tables) into the color conversion means of the Takizawa-Lightbody system in order to efficiently process multi-format pixels. The Takizawa system, now incorporating the Lightbody plurality of color space converting means as discussed above and the use of the Sakoda's plurality of LUTs (look up tables), has all of the features of claim 2.

The Takizawa system, now incorporating the Lightbody plurality of color space converting means as discussed above, has a majority of the features of claim 3 including control means (Takizawa: column 4, lines 50-60) and color space converting means (Lightbody: column 5, lines 13-27), as discussed above concerning parent claim 1. However, the Takizawa system, incorporating the use of the Lightbody plurality of color space converting means, fails to disclose the explicit use of look up tables as in the claim. Sakoda discloses that for color space conversion it is advantageous and well-known to use the plural look up tables (Sakoda: column 10, lines 53-68; column 11, lines 1-35) for efficient image processing of multi-format bits (Sakoda: column 2, lines 16-36). Accordingly, given the advantageous teaching of Sakoda, it would have been obvious for one of ordinary skill in the art to incorporate the use of the Sakoda's plurality of

Art Unit: 2613

LUTs (look up tables) into the color conversion means of the Takizawa-Lightbody system in order to efficiently process multi-format pixels. The Takizawa system, now incorporating the Lightbody plurality of color space converting means as discussed above and the use of the Sakoda's plurality of LUTs (look up tables), has all of the features of claim 3.

The Takizawa system, now incorporating the Lightbody plurality of color space converting means as discussed above, has a majority of the features of claim 4 including control means for arbitrarily selecting a color conversion format (Lightbody: column 5, lines 15-20), as discussed above concerning parent claim 1. However, the Takizawa system, incorporating the use of the Lightbody plurality of color space converting means, fails to disclose the explicit use of look up tables as in the claim. Sakoda discloses that for color space conversion it is advantageous and well-known to use the plural look up tables (Sakoda: column 10, lines 53-68; column 11, lines 1-35) for efficient image processing of multi-format bits (Sakoda: column 2, lines 16-36). Accordingly, given the advantageous teaching of Sakoda, it would have been obvious for one of ordinary skill in the art to incorporate the use of the Sakoda's plurality of LUTs (look up tables) into the color conversion means of the Takizawa-Lightbody system in order to efficiently process multi-format pixels. The Takizawa system, now incorporating the Lightbody plurality of color space converting means as discussed above and the use of the Sakoda's plurality of LUTs (look up tables), has all of the features of claim 4.

The Takizawa system, now incorporating the Lightbody plurality of color space converting means as discussed above, has a majority of the features of claims 5-6 including storing color conversion data in a ROM (Takizawa: column 3, lines 38-40), as discussed above concerning parent claim 1. However, the Takizawa system, incorporating the use of the

Lightbody plurality of color space converting means, fails to disclose the explicit use of look up tables as being contained in a ROM as in the claims. Sakoda discloses that for color space conversion it is advantageous and well-known to use the plural look up tables (Sakoda: column 10, lines 53-68; column 11, lines 1-35) for efficient image processing of multi-format bits (Sakoda: column 2, lines 16-36). Accordingly, given the advantageous teaching of Sakoda, it would have been obvious for one of ordinary skill in the art to incorporate the use of the Sakoda's plurality of LUTs (look up tables) into the color conversion means of the Takizawa-Lightbody system in order to efficiently process multi-format pixels. The Takizawa system, now incorporating the Lightbody plurality of color space converting means as discussed above and the use of the Sakoda's plurality of LUTs (look up tables), has all of the features of claims 5-6.

The Takizawa system, now incorporating the Lightbody plurality of color space converting means as discussed above, has a majority of the features of claims 7-8, including having a reloadable memory in communication with the control means (Takizawa: column 4, lines 45-50), as discussed above concerning parent claim 1. However, the Takizawa system, incorporating the use of the Lightbody plurality of color space converting means, fails to disclose the explicit use of look up tables as in the claim. Sakoda discloses that for color space conversion it is advantageous and well-known to use the plural look up tables (Sakoda: column 10, lines 53-68; column 11, lines 1-35) for efficient image processing of multi-format bits (Sakoda: column 2, lines 16-36). Accordingly, given the advantageous teaching of Sakoda, it would have been obvious for one of ordinary skill in the art to incorporate the use of the Sakoda's plurality of LUTs (look up tables) into the color conversion means of the Takizawa-Lightbody system in order to efficiently process multi-format pixels. The Takizawa system, now incorporating the

Lightbody plurality of color space converting means as discussed above and the use of the Sakoda's plurality of LUTs (look up tables), has all of the features of claims 7-8.

The Takizawa system, now incorporating the Lightbody plurality of color space converting means as discussed above, has a majority of the features of claim 9, as discussed above concerning parent claim 1. However, the Takizawa system, incorporating the use of the Lightbody plurality of color space converting means, fails to disclose the explicit use of look up tables as being held in the form of a logic circuit as in the claim. Sakoda discloses that for color space conversion it is advantageous and well-known to use the plural look up tables as being held in the form of logic circuits (Sakoda: column 10, lines 53-68; column 11, lines 1-35) for efficient image processing of multi-format bits (Sakoda: column 2, lines 16-36). Accordingly, given the advantageous teaching of Sakoda, it would have been obvious for one of ordinary skill in the art to incorporate the use of the Sakoda's plurality of LUTs (look up tables) into the color conversion means of the Takizawa-Lightbody system in order to efficiently process multi-format pixels. The Takizawa system, now incorporating the Lightbody plurality of color space converting means as discussed above and the use of the Sakoda's plurality of LUTs (look up tables), has all of the features of claim 9.

The Takizawa apparatus, now incorporating the Lightbody plurality of color space converting means as discussed above, has a majority of the features of claim 11 including color space converting means for converting a plurality of kinds of color information corresponding to picture elements (Lightbody: column 5, lines 13-27), as discussed above concerning parent claim 10. However, the Takizawa apparatus, incorporating the use of the Lightbody plurality of color space converting means, fails to disclose the explicit use of look up tables as in the claim.

Sakoda discloses that for color space conversion it is advantageous and well-known to use the plural look up tables (Sakoda: column 10, lines 53-68; column 11, lines 1-35) for efficient image processing of multi-format bits (Sakoda: column 2, lines 16-36). Accordingly, given the advantageous teaching of Sakoda, it would have been obvious for one of ordinary skill in the art to incorporate the use of the Sakoda's plurality of LUTs (look up tables) into the color conversion means of the Takizawa-Lightbody apparatus in order to efficiently process multi-format pixels. The Takizawa apparatus, now incorporating the Lightbody plurality of color space converting means as discussed above and the use of the Sakoda's plurality of LUTs (look up tables), has all of the features of claim 11.

The Takizawa apparatus, now incorporating the Lightbody plurality of color space converting means as discussed above, has a majority of the features of claim 13 including control means (Takizawa: column 4, lines 50-60) and color space converting means (Lightbody: column 5, lines 13-27), as discussed above concerning parent claim 10. However, the Takizawa apparatus, incorporating the use of the Lightbody plurality of color space converting means, fails to disclose the explicit use of look up tables as in the claim. Sakoda discloses that for color space conversion it is advantageous and well-known to use the plural look up tables (Sakoda: column 10, lines 53-68; column 11, lines 1-35) for efficient image processing of multi-format bits (Sakoda: column 2, lines 16-36). Accordingly, given the advantageous teaching of Sakoda, it would have been obvious for one of ordinary skill in the art to incorporate the use of the Sakoda's plurality of LUTs (look up tables) into the color conversion means of the Takizawa-Lightbody apparatus in order to efficiently process multi-format pixels. The Takizawa apparatus, now incorporating the Lightbody plurality of color space converting means as discussed above

Art Unit: 2613

and the use of the Sakoda's plurality of LUTs (look up tables), has all of the features of claim 13.

The Takizawa apparatus, now incorporating the Lightbody plurality of color space converting means as discussed above, has a majority of the features of claim 14 including control means for arbitrarily selecting a color conversion format (Lightbody: column 5, lines 15-20), as discussed above concerning parent claim 10. However, the Takizawa apparatus, incorporating the use of the Lightbody plurality of color space converting means, fails to disclose the explicit use of look up tables as in the claim. Sakoda discloses that for color space conversion it is advantageous and well-known to use the plural look up tables (Sakoda: column 10, lines 53-68; column 11, lines 1-35) for efficient image processing of multi-format bits (Sakoda: column 2, lines 16-36). Accordingly, given the advantageous teaching of Sakoda, it would have been obvious for one of ordinary skill in the art to incorporate the use of the Sakoda's plurality of LUTs (look up tables) into the color conversion means of the Takizawa-Lightbody apparatus in order to efficiently process multi-format pixels. The Takizawa apparatus, now incorporating the Lightbody plurality of color space converting means as discussed above and the use of the Sakoda's plurality of LUTs (look up tables), has all of the features of claim 14.

The Takizawa apparatus, now incorporating the Lightbody plurality of color space converting means as discussed above, has a majority of the features of claims 15-16 including storing color conversion data in a ROM (Takizawa: column 3, lines 38-40), as discussed above concerning parent claim 10. However, the Takizawa apparatus, incorporating the use of the Lightbody plurality of color space converting means, fails to disclose the explicit use of look up tables as being contained in a ROM as in the claims. Sakoda discloses that for color space conversion it is advantageous and well-known to use the plural look up tables (Sakoda: column

10, lines 53-68; column 11, lines 1-35) for efficient image processing of multi-format bits (Sakoda: column 2, lines 16-36). Accordingly, given the advantageous teaching of Sakoda, it would have been obvious for one of ordinary skill in the art to incorporate the use of the Sakoda's plurality of LUTs (look up tables) into the color conversion means of the Takizawa-Lightbody apparatus in order to efficiently process multi-format pixels. The Takizawa apparatus, now incorporating the Lightbody plurality of color space converting means as discussed above and the use of the Sakoda's plurality of LUTs (look up tables), has all of the features of claims 15-16.

The Takizawa apparatus, now incorporating the Lightbody plurality of color space converting means as discussed above, has a majority of the features of claims 17-18, including having a reloadable memory in communication with the control means (Takizawa: column 4, lines 45-50), as discussed above concerning parent claim 10. However, the Takizawa apparatus, incorporating the use of the Lightbody plurality of color space converting means, fails to disclose the explicit use of look up tables as in the claim. Sakoda discloses that for color space conversion it is advantageous and well-known to use the plural look up tables (Sakoda: column 10, lines 53-68; column 11, lines 1-35) for efficient image processing of multi-format bits (Sakoda: column 2, lines 16-36). Accordingly, given the advantageous teaching of Sakoda, it would have been obvious for one of ordinary skill in the art to incorporate the use of the Sakoda's plurality of LUTs (look up tables) into the color conversion means of the Takizawa-Lightbody apparatus in order to efficiently process multi-format pixels. The Takizawa apparatus, now incorporating the Lightbody plurality of color space converting means as discussed above and the use of the Sakoda's plurality of LUTs (look up tables), has all of the features of claims 17-18.

Art Unit: 2613

The Takizawa apparatus, now incorporating the Lightbody plurality of color space converting means as discussed above, has a majority of the features of claim 19, as discussed above concerning parent claim 10. However, the Takizawa apparatus, incorporating the use of the Lightbody plurality of color space converting means, fails to disclose the explicit use of look up tables as being held in the form of a logic circuit as in the claim. Sakoda discloses that for color space conversion it is advantageous and well-known to use the plural look up tables as being held in the form of logic circuits (Sakoda: column 10, lines 53-68; column 11, lines 1-35) for efficient image processing of multi-format bits (Sakoda: column 2, lines 16-36). Accordingly, given the advantageous teaching of Sakoda, it would have been obvious for one of ordinary skill in the art to incorporate the use of the Sakoda's plurality of LUTs (look up tables) into the color conversion means of the Takizawa-Lightbody apparatus in order to efficiently process multi-format pixels. The Takizawa apparatus, now incorporating the Lightbody plurality of color space converting means as discussed above and the use of the Sakoda's plurality of LUTs (look up tables), has all of the features of claim 19.

The Takizawa image pickup unit, now incorporating the Lightbody plurality of color space converting means as discussed above, has a majority of the features of claim 23, including compression means (Takizawa: column 3, lines 9-12), as discussed above concerning parent claim 20. However, the Takizawa apparatus, incorporating the use of the Lightbody plurality of color space converting means, fails to disclose the explicit use of look up tables as being held in the form of a logic circuit as in the claim. Sakoda discloses that for color space conversion it is advantageous and well-known to use the plural look up tables as being held in the form of logic circuits (Sakoda: column 10, lines 53-68; column 11, lines 1-35) for efficient image processing

Art Unit: 2613

of multi-format bits (Sakoda: column 2, lines 16-36). Accordingly, given the advantageous teaching of Sakoda, it would have been obvious for one of ordinary skill in the art to incorporate the use of the Sakoda's plurality of LUTs (look up tables) into the color conversion means of the Takizawa-Lightbody apparatus in order to efficiently process multi-format pixels. The Takizawa image pickup unit, now incorporating the Lightbody plurality of color space converting means as discussed above and the use of the Sakoda's plurality of LUTs (look up tables), has all of the features of claim 23.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andy S. Rao whose telephone number is (703)-305-4813. The examiner can normally be reached on Monday-Friday 8 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris S. Kelley can be reached on (703)-305-4856. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-308-6606 for regular communications and (703)-308-6606 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-305-4700.

Andy S. Rao
Primary Examiner
Art Unit 2613

ANDY RAO
PRIMARY EXAMINER



asr
February 13, 2002